MAGNETIC INDUCTION DECONTAMINATION SYSTEM (MIDS)

The **Magnetic Induction Decontamination System (MIDS)** decontaminates empty ton containers and scrap metal through thermal heating induced by magnetism. This generates less waste than a liquid rinse process and provides more thorough decontamination, along with increased safety, reduced environmental impact and quicker processing.

The U.S. Army Chemical Materials Activity Recovered Chemical Materiel Directorate (CMA RCMD) used the MIDS process to decontaminate 4,307 empty ton containers at Pine Bluff Arsenal, Arkansas, a project completed in 2011 that diverted 6.5 million pounds of steel from being sent to a hazardous waste facility, and eliminated 660,000 gallons of hazardous liquid waste that would have been generated from the liquid rinse process originally proposed.

The process features a carefully designed venting system to capture any residual contaminants released.

Magnetic induction heating

Magnetic induction uses a magnetic field to raise the temperature of an item such as a Ton Container (TC). Insulation is placed over the container, with copper wrapped around the assembly. When the system is energized, the magnetic field causes the iron in the TC to heat up. The insulation prevents the heat from escaping, enabling operators to raise the surface temperature to the desired level.

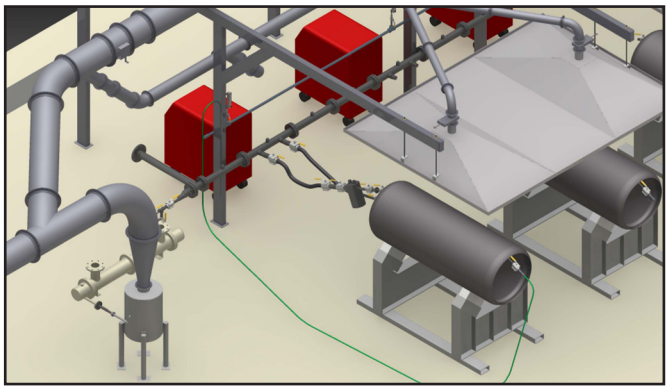
MIDS heats TCs to 1,000°F for 60 minutes, well above the standard required by the Army to achieve chemical agent decontamination. This process significantly reduces liquid waste.

How it works

Operators bring the TC into the decontamination facility and put it on a glove box, where vent pipes and valves are installed. The TC is removed from the glove box, and operators weld on thermocouples, cover it with an insulating blanket and add the induction coil. A ball valve and pipe extension connect the TC to the air manifold system, capturing any contaminants released during the heating process.

After reaching 1,000°F for a minimum of 60 minutes, ensuring decontamination to what the Army once termed 5X, the TC is removed and cooled, and ultimately transported to a metals recycler.

The Magnetic Induction Decontamination System features a carefully designed venting system to capture any residual contaminants released from the ton containers.



On its cradle, the ton container rests on a layer of fire brick, preventing heat transfer to the metal supports during the decontamination process.

REV: 07062016

U.S. ARMY CHEMICAL MATERIALS ACTIVITY | RECOVERED CHEMICAL MATERIEL DIRECTORATE
E4585 HOADLEY ROAD | ABERDEEN PROVING GROUND, MARYLAND 21010
PHONE: 410-436-4292 | WWW.CMA.ARMY.MIL

U.S.ARMY